IN THE CLAIMS

This is a complete and current listing of the claims, marked with status identifiers in parentheses. The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) Hydrophilic immobilization layer for biosensors made of a radically cross-linked hydrogel based on polyacrylamide, wherein the initial composition comprises acrylamide,*cross-linkers, at least one radical initiator~~(s)~~, and at least one comonomer with reactive linker groups~~and where necessary softeners~~.

2. (Currently Amended) Hydrophilic immobilization layer made of a photostructured hydrogel, based on polyacrylamide, wherein the initial composition comprises acrylamide,*cross-linkers, at least one photoinitiator~~(s)~~, at least one film former, and at least one comonomer with reactive linker groups~~and where necessary softeners~~.

3. (Currently Amended) Hydrophilic immobilization layer in accordance with ~~Claim~~ claim 1~~or 2~~, ~~characterized in that~~wherein the cross-linkers include at least one of ~~is~~ an acrylic and~~or~~ methacrylic compound.

4. (Currently Amended) Hydrophilic immobilization layer in accordance with ~~Claim~~ claim 3, ~~characterized in that~~wherein the cross-linker~~is~~s include at least one of Methylenebis(meth)acrylamide and~~/or~~ Dimethacryl acid ester.

5. (Currently Amended) Hydrophilic immobilization layer in accordance with ~~one of the Claims~~claim 1~~ to 4, characterized in that~~, wherein the at least one comonomer with reactive linker groups ~~is~~ includes at least one of Maleic acid anhydride and~~/or~~ Glycidyl(meth)acrylate.

6. (Currently Amended) Hydrophilic immobilization layer in accordance with ~~one of the Claims 1 to 5, characterized in~~

~~that~~claim 13, wherein the softeners ~~is~~ include at least one of Mono, Di and~~/or~~ Triethyleneglycol.

7. (Currently Amended) Hydrophilic immobilization layer in accordance with ~~one of the Claims 1 to 6, characterized in that~~claim 1, wherein the initial composition is present in a polar solvent mixable with water.

8. (Currently Amended) Hydrophilic immobilization layer in accordance with ~~Claim~~ claim 7, ~~characterized in that~~wherein the solvent is Dimethylformamide.

9. (Currently Amended) Hydrophilic immobilization layer in accordance with ~~one of the Claims 2 to 8, characterized in that~~claim 2, wherein the film former ~~is~~ includes at least one of Polyvinylpyrolidone, Polyacrylamide and~~/or~~ Polyhydroxymethacrylate.

10. (Currently Amended) Hydrophilic immobilization layer in accordance with ~~one of the Claims 1 to 9, characterized in that it~~claim 1, wherein the layer is created on at least one of transducer ~~or~~ and carrier surfaces made from at least one of metal, glass, silicon, silicon dioxide, silicon nitride, plastic ~~or~~ and on surfaces with topography.

11. (Currently Amended) A method, comprising:

using~~Use of~~ the immobilization layer ~~in accordance with one of the previous claims~~of claim 1 to produce biosensor recognition layers through ~~(covalent)~~ at least one of coupling in ~~or~~ and Immobilization of chemical or biological recognition molecules.

12. (Currently Amended) The method ~~Use~~ in accordance with ~~Claim~~ claim 11, ~~characterized in that~~wherein the recognition molecules are capture oligonucleotides.

13. (New) Hydrophilic immobilization layer in accordance with claim 1, wherein the initial composition further comprises softeners.

14. (New) Hydrophilic immobilization layer in accordance with claim 2, wherein the initial composition further comprises softeners.

15. (New) Hydrophilic immobilization layer in accordance with claim 2, wherein the cross-linkers include at least one of an acrylic and methacrylic compound.

16. (New) Hydrophilic immobilization layer in accordance with claim 15, wherein the cross-linkers include at least one of Methylenebis(meth)acrylamide and Dimethacryl acid ester.

17. (New) Hydrophilic immobilization layer in accordance with claim 2, wherein the at least one comonomer with reactive linker groups includes at least one of Maleic acid anhydride and Glycidyl(meth)acrylate.

18. (New) Hydrophilic immobilization layer in accordance with claim 14, wherein the softeners include at least one of Mono, Di and Triethyleneglycol.

19. (New) Hydrophilic immobilization layer in accordance with claim 2, wherein the initial composition is present in a polar solvent mixable with water.

20. (New) Hydrophilic immobilization layer in accordance with claim 2, wherein the layer is created on at least one of transducer and carrier surfaces made from at least one of metal, glass, silicon, silicon dioxide, silicon nitride, plastic and on surfaces with topography.